

46. (Once amended) The method in claim 45, wherein said step of performing a deposition further comprises depositing a polymer on said wafer.

Marked versions of these claims appear in an appendix to this Amendment and Response.

Remarks

Claims 45-46 were pending up to this Amendment.

Claims 45-46 are rejected.

Claims 45-46 are amended.

Applicants request reconsideration of claims 45-46.

I. Rejection of claims under 35 U.S.C. §112

The Examiner rejected claims 20-22 based on 35 U.S.C. §112, ¶2, arguing that the phrase "metal lines" is neither disclosed nor suggested. First, Applicants note that claims 20-22 are not pending. Second, Applicants note that the phrase "metal lines" does not appear in the pending claims. Claim 45 does mention "metal features" in the preamble. If the Examiner intended to take issue with claim 45's use of the phrase "metal features," Applicants contend that there is sufficient disclosure in the Specification to support the use of that phrase. For example, the Specification expresses that "the invention can be used to form a number of . . . structures." (Specification at p. 4, ln. 17-18.) The Specification further expresses that, concerning embodiments wherein material is provided in a recess, the recess can be "any recess." (*Id.* at p. 9, ln. 21.) Moreover, the Specification specifies that the recess can be formed between two protruding "features" and in layers other than an oxide. (*Id.* at p. 10, ln. 1-3.) Still further, the Specification discloses a layer "other than an oxide" in the form of a conductive layer. (*Id.* at p. 8, ln. 14.) Hence, the invention discloses conductive features. Moreover, Applicants submit

that one of ordinary skill in the art would understand metal to be conductive. THE ILLUSTRATED DICTIONARY OF ELECTRONICS, for example, defines “conductor” as a “material which conducts electricity with ease, such as metals” and defines “metal” as a “material which exhibits . . . good electrical . . . conductivity.” (Gibilisco, Stan, THE ILLUSTRATED DICTIONARY OF ELECTRONICS (6th ed.) (for the Examiner’s convenience, copies of the relevant DICTIONARY pages are included in an appendix to this Response.) As a result, the invention’s disclosure and suggestion of conductive features necessarily includes disclosure and suggestion of metal features.

Applicants also note that such a conclusion is consistent with the treatment by the Patent and Trademark Office (PTO) of a similar phrase present in claims addressed during prosecution of the parent application. Specifically, it is noteworthy that Applicants introduced the phrase “metal lines” in many of the initial claims in U.S. App. Ser. No. 09/046,835; the PTO never rejected the claims based on the use of that phrase; and many of the claims in the issued patent contain that phrase. (See U.S. Pat. No. 6,117,764 at claims 6-9.)

Thus, based on the Specification’s disclosure, the phrase’s plain meaning, and the PTO’s previous experience with a similar phrase in the parent application, Applicants have sufficiently pointed out claimed the subject matter which Applicants regard as their invention.

II. Rejection of claims under 35 U.S.C. §102

The Examiner rejected claims 45-46 as being anticipated by either Chouan (U.S.Pat. No. 5,079,178), Nulty (published European patent application EP 721,205), or Imai (U.S.Pat. No. 6,089,183). Concerning the European Nulty reference, Applicants note that both its publication date (7/10/96) and filing date (10/25/95) are later than the priority date of the current application – 6/2/95. Even with the recent amendments to 102, Applicants do not understand the European Nulty reference to be prior art. Nevertheless, Applicants note that Nulty’s European application is based on a U.S. application filed 12/7/94 that issued as U.S. Patent No. 5,562,801. (Applicants are

submitting Nulty's U.S. Patent No. 5,562,801 in an Information Disclosure Statement filed concurrently with this Amendment and Response.) Accordingly, Applicants address the U.S. Nulty patent, as well as the other two U.S. Patents, below.

Applicants contend that the claims contain limitations that Chouan, Nulty, and Imai fail to disclose. For example, claim 45 has been clarified to require (1) performing a deposition of a material (first addressed in the preamble) at a particular site (also first addressed in the preamble); and (2) etching *that material* in the same general site used to perform the deposition, wherein etching further comprises etching generally simultaneously with performing the deposition. Dependent claim 46 incorporates these limitations.

These limitations are in contrast to Chouan, Nulty, and Imai, which disclose the formation of one material – a polymer – in an opening while etching from *another* material, such as an oxide. (See, e.g., Chouan's Title, col. 2 ln. 39-48, col. 3 ln. 59-61, col. 5 ln. 50-55, FIG. 1C (also demonstrating that the cited deposition and etch occur in different sites); Nulty at col. 2 ln. 39-40, col. 11 ln. 67-col. 12 ln. 2, FIG. 3; and Imai at col. 12 ln. 55-61, col. 13, ln. 11-22, FIG. 2B.) Such teachings, disclosing only the opposite of the limitations addressed above, cannot be interpreted to anticipate those limitations. Accordingly, and without adopting the Examiner's interpretation of the references, Applicants request that the Examiner withdraw the novelty rejections.

CONCLUSION

In light of the above amendments and remarks, Applicants submit that claims 45-46 are allowable. If there are any matters which may be resolved or clarified through a telephone interview, the Examiner is requested to contact Applicants' undersigned attorney at the number indicated.

Respectfully submitted,

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Appendix 1: Marked versions of amended claims

45. (Thrice amended) A method of providing a [polymer] material in a site between metal features on a wafer, comprising:

performing a deposition [on] of said material over said wafer in [a] said site;

and

etching said material in the same general site used to perform said deposition, wherein said step of etching further comprises etching generally simultaneously with performing said deposition.

46. (Once amended) The method in claim 45, wherein said step of performing a deposition further comprises depositing [said] a polymer on said wafer.